E. G. WATROUS.

LIQUID SOAP DISPENSING DEVICE.

APPLICATION FILED APR. 30, 1913.

1,118,977. Patented Dec. 1, 1914.

Fig. 1.

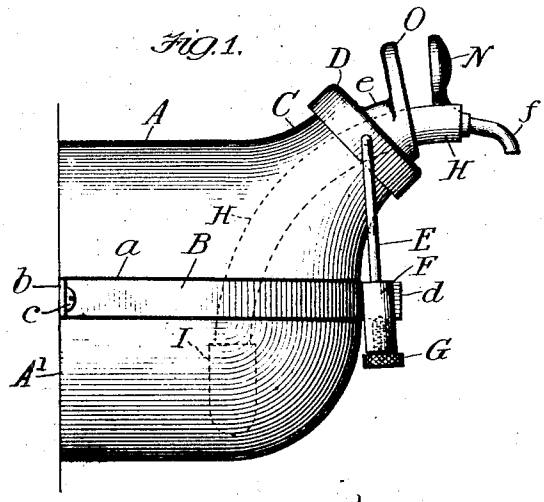


Fig. 2.

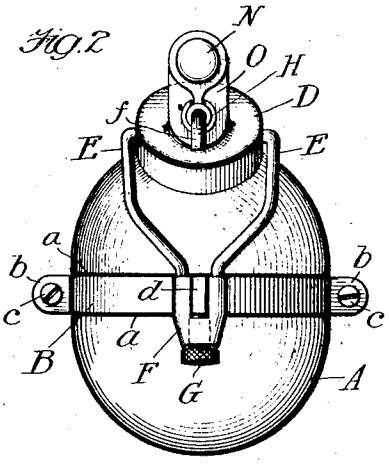


Fig. 3.

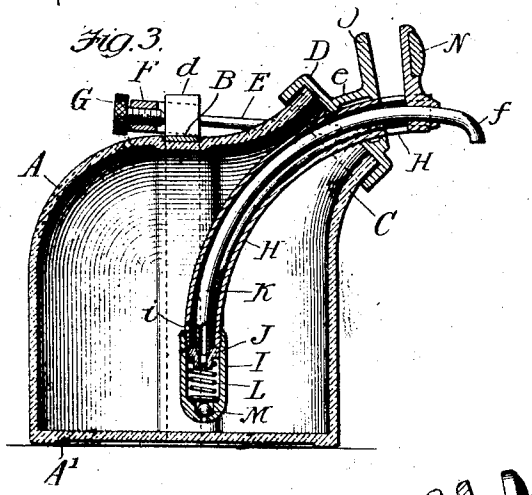


Fig. 4.

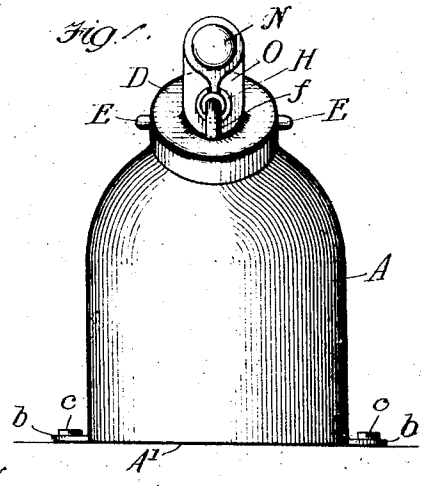


Fig. 5.

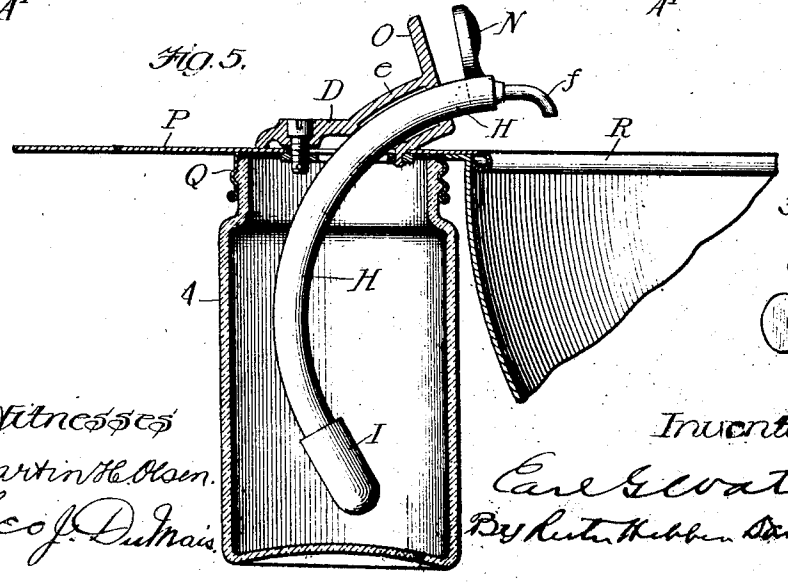
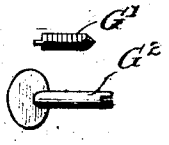


Fig. 6.



Witnesses

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LIQUID-SOAP-DISPENSING DEVICE.

1,118,977. Specification of Letters Patent. Patented Dec. 1, 1914.

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To all whom it may concern:

Be it known that I, EARL G. WATROUS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Liquid-Soap-Dispensing Devices, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

My invention has for its object the production of a simple and efficient dispensing device for liquid soap fixtures, by means of which the liquid soap may be readily and conveniently withdrawn from an upright container in regulated and approximately uniform quantities.

It has for a further object the provision of a reversible container for the liquid soap which can be mounted upon either a vertical or a horizontal support, as may be required or desired. Its novelty will be hereinafter set forth and particularly pointed out in my claims.

In the accompanying drawings, Figure 1 is a side elevation of a soap fixture embodying my invention, mounted upon a vertical support, such as a wall; Fig. 2 a front elevation of the same; Fig. 3 a middle vertical section of the same fixture mounted upon a horizontal support, such as a table or lavatory top; Fig. 4 a front elevation of the fixture in the position of Fig. 3; Fig. 5 a middle vertical section of a modified form of fixture adapted for use with a sheet metal lavatory, such as those frequently employed in sleeping cars; and Fig. 6 details of a locking screw and key adapted for use in place of the thumb screw shown in Figs. 1, 2, and 3.

The same letters of reference are used to indicate corresponding parts in the several views.

So far as concerns the first object of my invention, the shape and position of the container for the liquid soap are not material, and it may be of the shape shown in Figs. 1 to 4 and employed in either of the two positions there shown, or it may be of the shape shown in Fig. 5 or of other suitable shape; but inasmuch as a very useful and important feature of my invention consists in the production of a fixture of this character which may be readily mounted upon either a vertical or a horizontal support and operate equally well in either position, I will first describe my invention with reference to Figs. 1 and 4 of the drawings which disclose such a fixture.

Referring to Figs. 1 to 4, the container A there shown, preferably made of glass, has a flat base A′ adapted to either fit against a vertical support, as in Figs. 1 and 2, or to rest upon a horizontal support, as in Figs. 3 and 4. This container A is provided with a neck or outlet C which projects from the body of the container at an angle of substantially forty-five degrees to the plane of the base A′ of the container, so that whether the container be secured to a vertical support, as in Figs. 1 and 2, or upon a horizontal support, as in Figs. 3 and 4, said neck or outlet will occupy approximately the same position in relation to the body of the container. Inasmuch as the axial line of the neck or outlet C is at an angle of forty-five degrees to the base of the container it also follows that a transverse plane of such neck or outlet, at right angles to its axial line, will stand at a similar angle to the base of the container, so that a cap or closure applied to the mouth of such neck, in such a transverse plane, will occupy substantially the same relation to the body of the container whether the latter be secured to a vertical support, as in Figs. 1 and 2, or upon a horizontal support, as in Figs. 3 and 4; and this will permit a cap so applied to the mouth of the container, such as the cap D in Figs. 1 to 4, to remain in the same position while the body of the container is reversed from the position of Fig. 1 to that of Fig. 3, or vice versa, as hereinafter described.

The container A may be secured to its vertical or horizontal support by any suitable means, but that which I employ is a novel and advantageous one for the purpose and also affords a convenient means, in cooperation with other parts, for securing the cap or closure D in place upon the mouth of the container. It consists of a U-shaped strap or bail B which surrounds three sides of the body of the container A and seats within a groove *a* provided for it, and has its extremities bent outwardly to form ears *b* through which may be passed screws *c* for securing it to the vertical or horizontal support for the container. Midway between its ends, at the front or right hand side of the container in Fig. 1, and at its top in Fig. 2, the strap

or bail B is provided with a lug *d* with which coöperates a yoke or bail E whose free ends are swiveled in the opposite sides of the cap D applied to the mouth of the container. In the particular construction shown in the drawings the two arms of the yoke E are composed of heavy wires or small rods, and their inwardly bent outer ends are secured in and connected by a slotted casting or connecting member F which is adapted to fit over the lug *d* of the bail B. A thumb-screw G threaded through the casting F and engaging the lug *d* serves to secure the parts firmly together.

Under the foregoing construction and arrangement of parts, as will be readily understood, the container A may be secured, by means of the bail or strap B, to either a vertical or a horizontal support, with its neck or outlet C occupying substantially the same position in both instances, and likewise without any change in the angular position of the cap D. For instance, if it be desired to shift the fixture from the position of Fig. 1 to that of Fig. 3 the yoke E will be disengaged from the lug *d*, of the bail B, by loosening the thumb-screw G, the container with the bail B be then turned to the position shown in Fig. 3 and secured upon the horizontal support, and the yoke E be then swung upward and over to the left and reëngaged with the lug *d* of the bail B in the new position occupied by it in Fig. 3, without otherwise changing the position of the cap D to which the yoke is secured, thus permitting the parts carried by the cap D and hereinafter described to remain in the same position which they occupied in Fig. 1.

Having now described the reversible feature of my novel fixture, which permits it to be mounted at will upon either a vertical or a horizontal support, I will next describe the means carried by the cap or closure D for withdrawing the contents of the container in regulated and uniform quantities, for use.

The cap D has formed upon its outer face a bearing and support *e* for the upper and outer end of a curved tube H which projects outwardly through and beyond the cap and extends inwardly and downwardly within the container to a point near the bottom thereof. The lower end of the tube H has screwed upon it a cap or cylinder I whose interior is of suitable form to constitute a piston-chamber for coöperation with a piston J which is secured to and carried by the lower end of a long curved tube K which extends lengthwise through the tube H and projects beyond the outer end thereof, where it forms a delivery spout *f*. The tube H is fixedly secured in the cap D, while the tube K is free to reciprocate longitudinally within the tube H, a coiled spring L confined with the cap or cylinder I, beneath the piston J carried by the lower end of the tube K, serving to yieldingly hold the latter in its upper and forward position, as in Figs. 1 and 3. The cylinder I is provided with an opening in its bottom, controlled by a check-valve M in the form of a ball, which permits ingress of the contents of the container into the cylinder I but prevents egress through said opening.

The tube K has an operating thumb-piece N secured to its end which projects outward beyond the cap D, and the projecting end of the tube H is slotted, as shown in Fig. 2, to permit the passage of the stem of said thumb-piece and prevent turning of the latter. The cap D, or its forwardly projecting support *e*, carries a fixed thumb-piece O adjacent the movable thumb-piece N, so that by grasping the two between the forefinger and thumb of one hand and squeezing them together the tube K, which carries the thumb-piece N, will be forced inwardly and downwardly within the tube H. This will force the piston J downwardly within the cylinder I and cause the liquid soap within said cylinder, beneath the piston, to be forced upwardly through the piston and through the tube K and discharged from the outer end of the latter. In this manner and by this means, a squeezing together of the thumb-pieces N and O will cause a definite amount of the contents of the container to be discharged therefrom through the tube K and delivered from the outer end of the latter. When the thumb-piece N is released and the spring L permitted to return the parts to normal position, the upward movement of the piston J within the cylinder I will cause a fresh supply of the liquid soap to be drawn upward into the cylinder through the opening in the bottom thereof, and will also cause the liquid soap remaining in the tube K to be drawn back into the cylinder I, thus clearing said tube at the end of each operation and preventing it from becoming stopped or clogged up, as it might do if it were not thus cleared at the end of each operation.

A small hole *i* in the outer tube H, just above the cylinder I, Fig. 3, is provided for the purpose of permitting the escape from said tube of any contents of the container which may work upward from the cylinder I, past the piston J, into the lower end of said tube.

In swinging the yoke E over from the position shown in Fig. 1 to that shown in Fig. 3, in the operation of securing the cap D to the container when the position of the latter is changed, as heretofore described, the thumb-pieces N and O will be squeezed together to withdraw the thumb-piece N and

projecting portion *f* of the tube K from the path of the yoke, to permit the free passage of the latter.

The construction shown in Fig. 5 does not embody the reversible feature of Figs. 1 to 4, heretofore described, but so far as the construction and operation of the devices for withdrawing the contents of the container are concerned, it is substantially the same as the construction shown in those figures. In Fig. 5 the fixture is combined with a sheet metal lavatory, to the horizontal top plate P of which the cap D which supports and carries the tube H is secured. The container A is carried by the screw socket Q upon the under side of the plate P, and its otherwise open upper end is closed by said plate and the cap D, while the delivery spout *f* of the tube K projects over the lavatory bowl R, as shown.

To prevent tampering with the fixtures shown in Figs. 1 to 4, or removal of the cap and parts carried by it, the screw G′ shown in Fig. 6 may be employed in place of the thumb-screw G of Figs. 1 to 4, a key G^2 being provided for the insertion and removal of said screw G′.

Having thus described my invention, I claim:

1. A container for liquid soap and the like, having a flat base adapted to fit against a support, and provided with an outlet at an angle of substantially forty-five degrees to the plane of said base, in combination with a pump supported within said container and having a delivery spout projecting through said outlet to the exterior of the container; substantially as described.

2. A container for liquid soap and the like, having a flat base adapted to fit against a support, and provided with an outlet at an angle of substantially forty-five degrees to the plane of said base, in combination with a cap or closure secured to said outlet in a plane at right angles to the axis thereof, and a pump supported from said cap within the container and having a delivery spout projecting through said cap to the exterior of the container; substantially as described.

3. A container for liquid soap and the like, having a flat base adapted to fit against a support, and provided with an outlet at an angle of substantially 45° to the plane of said base, in combination with a cap or closure secured to said outlet in a plane at right angles to the axis thereof, a curved tube carried by said cap and extending within the container to a point near the bottom thereof, a cylinder carried by the lower end of said tube, a piston in said cylinder, means for admitting the contents of the container to said cylinder, a delivery tube carried by said piston and communicating through the same with the interior of the cylinder and extending longitudinally through the first mentioned tube and cap to the exterior of the container, a spring for moving the piston and tube in one direction, and a thumb-piece upon the outer end of the tube for moving them in the opposite direction; substantially as described.

4. A container for liquid soap and the like, having a flat base adapted to fit against a support, and provided with an outlet at an angle of substantially 45° to the plane of said base, in combination with a cap or closure secured to said outlet in a plane at right angles to the axis thereof, a fixed thumb-piece upon said cap, a curved tube carried by said cap and extending within the container to a point near the bottom thereof, a cylinder carried by the lower end of said tube, a piston in said cylinder, means for admitting the contents of the container to said cylinder, a delivery tube carried by said piston and communicating through the same with the interior of the cylinder and extending longitudinally through the first mentioned tube and cap to the exterior of the container, a spring for moving the piston and tube in one direction, and a thumb-piece carried by the outer end of the delivery tube, adjacent the fixed thumb-piece upon the cap, for moving the tube and piston in opposition to the spring; substantially as described.

5. A container for liquid soap and the like, having a flat base adapted to fit against a support, and provided with an outlet at an angle of substantially 45° to the plane of said base, in combination with a cap or closure secured to said outlet in a plane at right angles to the axis thereof, a fixed thumb-piece upon said cap, a curved tube carried by said cap and extending within the container to a point near the bottom thereof, said tube projecting outward through and beyond said cap and provided with a slot in one side of its projecting portion, a cylinder carried by the lower end of the tube within the container, a piston in said cylinder, means for admitting the contents of the container to said cylinder, a delivery tube carried by said piston and communicating through the same to the interior of the cylinder and extending longitudinally through the first mentioned tube and cap to the exterior of the container, a spring for moving the piston and tube in one direction, and a thumb-piece secured upon the outer end of the tube and guided in the slot in the projecting end of the fixed tube for moving the piston in the opposite direction; substantially as described.

6. The herein described container A having the neck or outlet C projecting from the body thereof at an angle of substantially 45° to the plane of its base A′, in combination with the cap D secured upon said outlet at right angles to the axis thereof, and a

pump supported from said cap within the container and having a delivery spout projecting through said cap to the exterior thereof; substantially as described.

7. The herein described container A having the neck or outlet C projecting from the body thereof at an angle of substantially 45° to the plane of its base A′, in combination with the cap D secured upon said outlet at right angles to the axis thereof and provided with the fixed thumb-piece O, and a pump supported within the container and having a delivery spout projecting through said cap to the exterior thereof and provided with the thumb-piece N adjacent the thumb-piece upon said cap; substantially as described.

8. The herein described container A having the neck or outlet C projecting from the body thereof at an angle of substantially 45° to the plane of its base A′, in combination with the cap D secured upon said outlet at right angles to the axis thereof, and provided with the fixed thumb-piece O, the curved tube H carried by and extending through the cap D, the cylinder I carried by the lower end of the tube H within the container, the piston J within said cylinder, the curved delivery tube K secured at its lower end to said piston and communicating through the same with the interior of the cylinder I, and extending outwardly through the tube H to the exterior of the container, the cylinder I having an inlet port controlled by a check valve M, the spring L, and the thumb-piece N carried by the outer end of the delivery spout K; substantially as described.

9. The combination of the container A, the bail or strap B for securing it to a support, the cap or closure D applied to the mouth of the container at an angle of substantially forty-five degrees to the plane of the base A′ of the container, and the yoke E interposed between the cap D and bail B and serving to secure the cap in position upon the container; substantially as described.

10. The combination of the container A, the strap or bail B for securing it to a support, the cap D applied to the mouth of said container at an angle of substantially forty-five degrees to the plane of the base A′ thereof, and the yoke E swiveled to the opposite sides of the cap D and coöperating with the bail B to secure the cap in position upon the container; substantially as described.

11. The combination of the container A, the strap or bail B for securing the same to a support, said strap or bail being provided midway its length with a lug *d*, the cap D applied to the mouth of said container at an angle of substantially forty-five degrees to the plane of the base A′ thereof, and the yoke E connected to the opposite sides of the cap D and coöperating with the lug *d* of the bail B to secure said cap in position upon the container; substantially as described.

12. The combination of the container A, the strap or bail B for securing the same to a support, said strap or bail being provided with a lug *d*, the cap D applied to the mouth of the container at an angle of substantially forty-five degrees to the plane of the base A′ thereof, the yoke E connected to the opposite sides of the cap D and provided at its middle with the slotted member F embracing the lug *d*, and a screw carried by said member F and engaging said lug; substantially as described.

13. The combination of the container A, the strap or bail B for securing the same to a support, said strap or bail being provided with a lug *d*, the cap D applied to the mouth of said container at an angle of substantially forty-five degrees to the plane of its base A′, the yoke E swiveled in the opposite sides of the cap D and provided at its middle with a slotted member F embracing the lug *d* of the bail B, and the thumb-screw G carried by said member F and engaging the lug *d*; substantially as described.

14. The combination of the container A, having the circumferential groove *a*, the strap or bail B surrounding said container and fitting in said groove, for securing the container to the support, the cap D applied to the mouth of said container at an angle of substantially forty-five degrees to the plane of the base A′ thereof, and the yoke E connected to the opposite sides of the cap D and coöperating with the bail B to secure said cap in position upon the container; substantially as described.

15. The combination of the container A, the cap or closure D therefor provided with the fixed thumb-piece O, the curved tube H carried by and extending through the cap D, the cylinder I carried by the lower end of said tube within the container, the piston J in said cylinder, the curved delivery tube K extending longitudinally through the tube H and projecting beyond the outer end thereof, the lower end of said tube K being secured to the piston J and communicating through the same with the interior of the cylinder I, and the outer end of the tube K being provided with the thumb-piece N adjacent the fixed thumb-piece O, the spring L, and the check valve M controlling an inlet port in the cylinder I; substantially as described.

16. The combination of the container A, the cap or closure D therefor provided with the thumb-piece O, the curved tube H carried by the cap D and extending through the same, the projecting outer end of said tube being provided with a guide slot, the cylinder I carried by the lower end of the tube H within the container, the piston J in said cylinder, the delivery tube K extending

longitudinally through the tube H and having its projecting outer end curved into the spout *f* and provided with the thumb-piece N guided in the slot in the outer end of the tube H, and the lower inner end of the tube K being secured to the piston J and communicating through the same with the interior of the cylinder I, the spring L, and the check valve M controlling the inlet port in the cylinder I; substantially as described.

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Witnesses:
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